NAD

SERVICE MANUAL

C 420

STEREO

AM/FM TUNER

C 420

STEREO

AM/FM TUNER

SERVICE SAFETY PRECAUTIONS

1. Safety check out

(Only U.S.A. model)

Before returning the product to the customer, make leakage current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit.

Parts marked with the symbol ⚠ are critical with regard to the risk of fire and electric shock. Replace only with parts recommended by the manufacturer.

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SPECIFICATIONS

AM TUNER SECTION

Input level is expressed as the reading in open-circuit of 75-ohm source impedance signal generator

Usable Sensitivity (999/1000kHz)		≤**30dBμ**
S/N Ratio (5mV in)		≥**38dB**
THD (5mV in)		≤**3%**
IF Rejection (450kHz)		≥**36dB**
Image Rejection (F+2xIF)		≥**28dB**
Selectivity		≥**17dB**
Output		**130 +/-20mV**
Loop Sensitivity (20dB S/N)		
	999/1000 kHz	≤**66 dB**
	603/600 kHz	≤**66 dB**
	1404/1400 kHz	≤**66 dB**
Frequency response (100 - 2.3 kHz, 5mV)		±**6 dB**

FM TUNER SECTION

Input level is expressed as the reading in open-circuit of 75-ohm source impedance signal generator

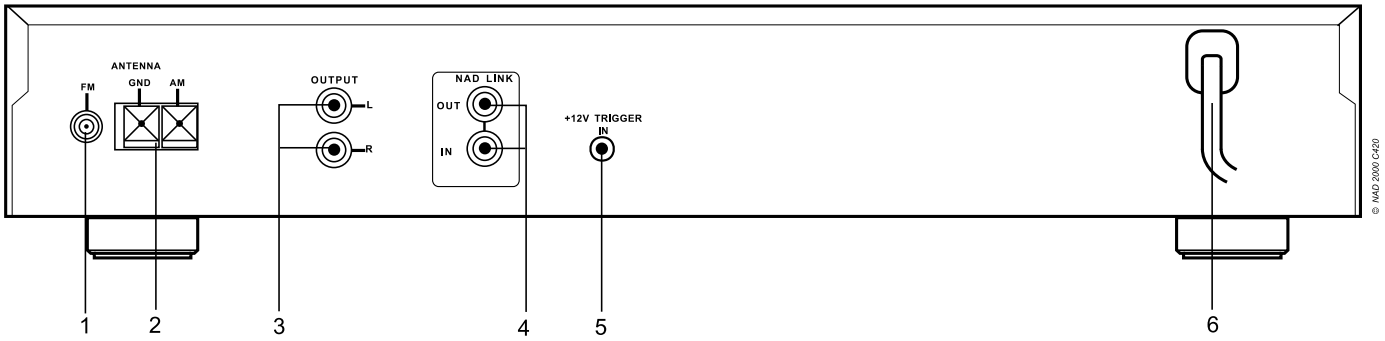
		***C**	***AH**
Usable Sensitivity (98 MHz)		≤**13 dBμ**	≤**13 dBμ**
Signal / Noise Ratio	Mono	≥**72 dB**	≥**72 dB**
(60 dBμ, IHF wtd)	Stereo	≥**66 dB**	≥**66 dB**
Frequency Response (20 Hz - 15 kHz, 60 dBμ)		**0±1.0 dB**	**0±1.0 dB**
Channel Separation (60 dBμ)	30 Hz	≥**33 dB**	≥**33 dB**
	1 kHz	≥**42 dB**	≥**42 dB**
	10 kHz	≥**32 dB**	≥**32 dB**
Alternate Channel Sensitivity (40 dBμ, ±400 kHz)		≥**60 dB**	≥**45 dB**
Capture Ratio (40 dBμ)		≤**3 dB**	≤**3 dB**
AM Suppression (60 dBμ, 100% Mod.FM, 30% Mod AM)		≥**65 dB**	≥**65 dB**
Image Rejection (119.4 MHz)		≥**85 dB**	≥**85 dB**
I.F. Rejection (10.7 MHz)		≥**78 dB**	≥**78 dB**
Pilot Suppression (60 dBμ)		≥**60 dB**	≥**60 dB**
THD (60 dBμ, L=R 75 kHz for AH, 40 kHz Dev for C)			
	Mono	≤**0.25%**	≤0.**25%**
	Stereo	≤**0.35%**	≤**0.35%**
Auto-Search sensitivity	On	≥**24 dBμ**	≥**24 dBμ**
	Off	≤**15 dBμ**	≤**15 dBμ**
RDS Decode Sensitivity		≤**26 dBμ**	≤**26 dBμ**

PHYSICAL SPECIFICATIONS

Dimensions (Width x Height x Depth)	**435 x 80 x 285 mm**
Net weight	**4 kg (8.8 lbs)**
Shipping weight	**5.1 kg (11.22 lbs)**

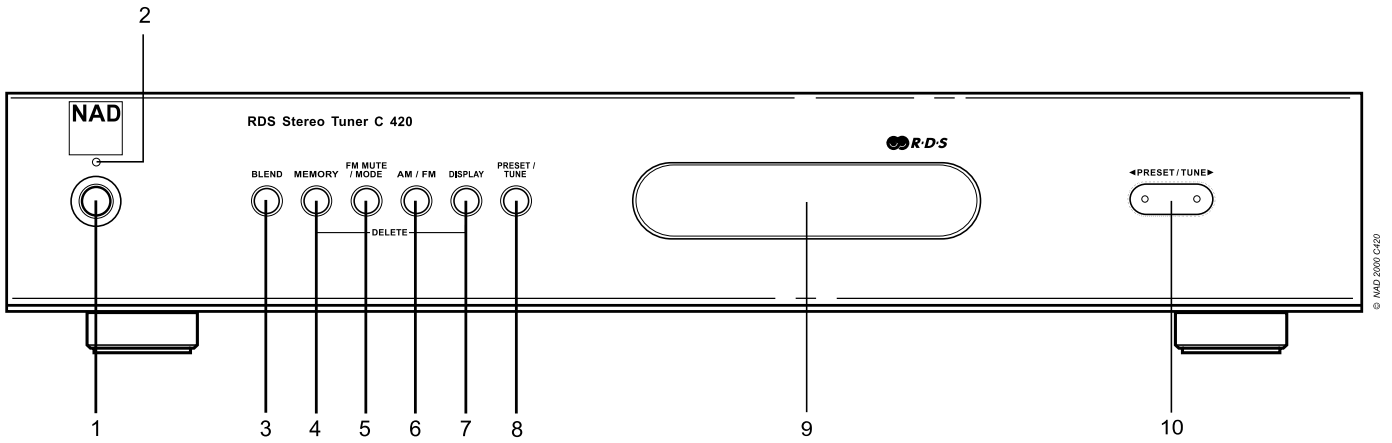
REAR PANEL / FRONT PANEL

REAR PANEL



1. FM ANTENNA
2. AM ANTENNA
3. OUTPUT
4. NAD-LINK IN/OUT
5. 12V TRIGGER IN
6. AC LINE CORD

FRONT PANEL



1. POWER ON / OFF
2. STAND-BY LED
3. BLEND
4. MEMORY
5. FM MUTE / MODE
6. AM / FM
7. DISPLAY
8. PRESET / TUNE
9. DISPLAY AREA
10. PRESET / TUNE ◄ AND ►

IMPORTANT NOTES

1. Show the software version

Press “PRESET/TUNE” and “TUNE UP” (►).

2. Light UP all the icon on the VFL

Press “PRESET/TUNE” and “TUNE DOWN” (◄).

3. CPU Resets

Press “PRESET/TUNE” and “TUNE DOWN” (◄) and any one key.

4. AM Step 10K/9K Change

Add D206: 10KHz / Delete D206: 9KHz.

DISASSEMBLY INSTRUCTIONS

1. Remove machine screws M 4.0 x 6.0 (① to ④) from the side panels.
   Remove tapping screw 3.0 x 8.5 ⑤ from the back panel.
   Refer to **Figure No.1**.

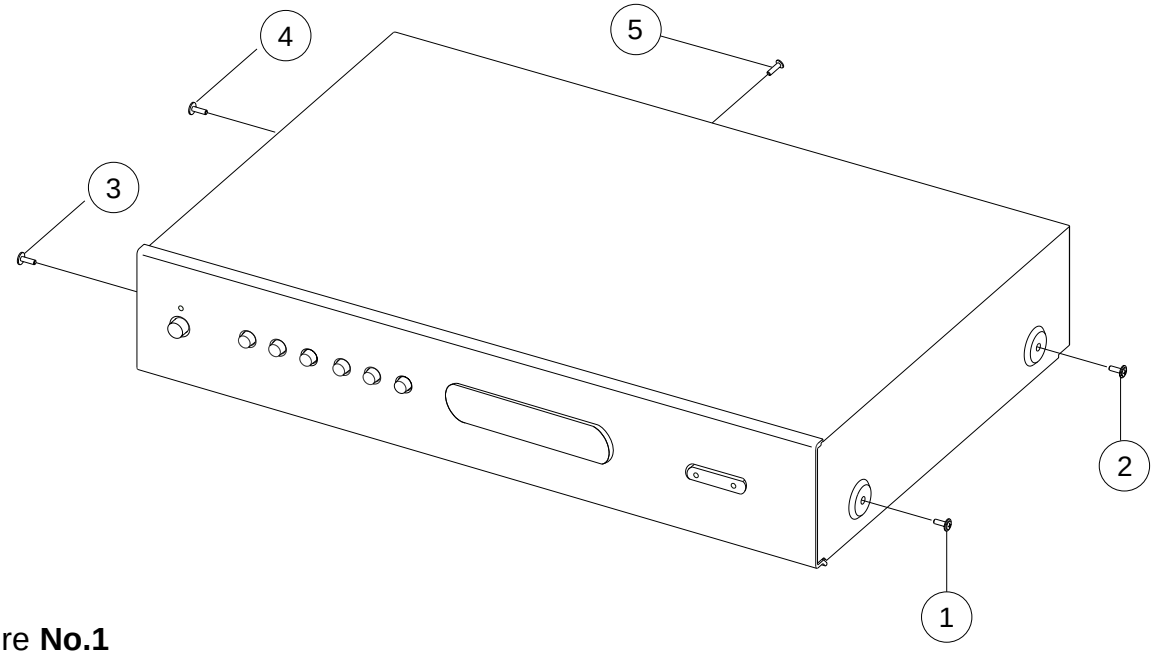


Figure **No.1**

2. Pull both sides of the TOP COVER slightly outwards ⑥ and tilt approx. 35˚ and then remove in the direction as indicated by the arrow ⑦. Refer to **Figure No.2**.

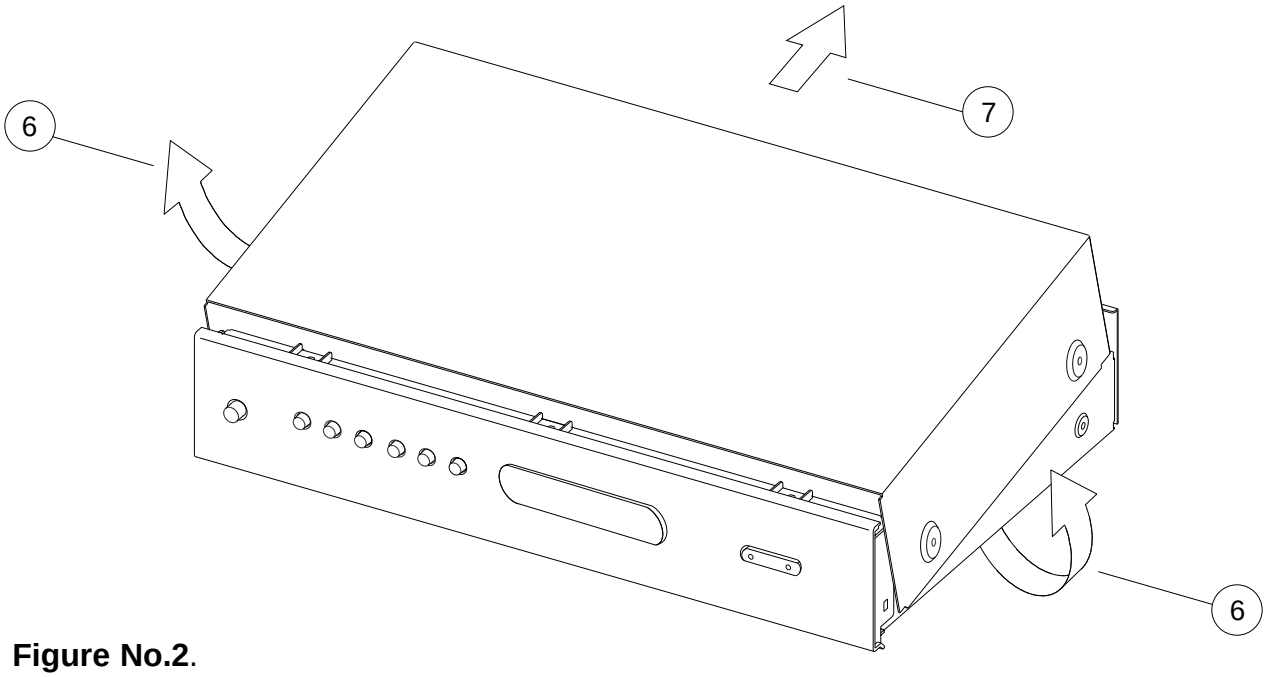
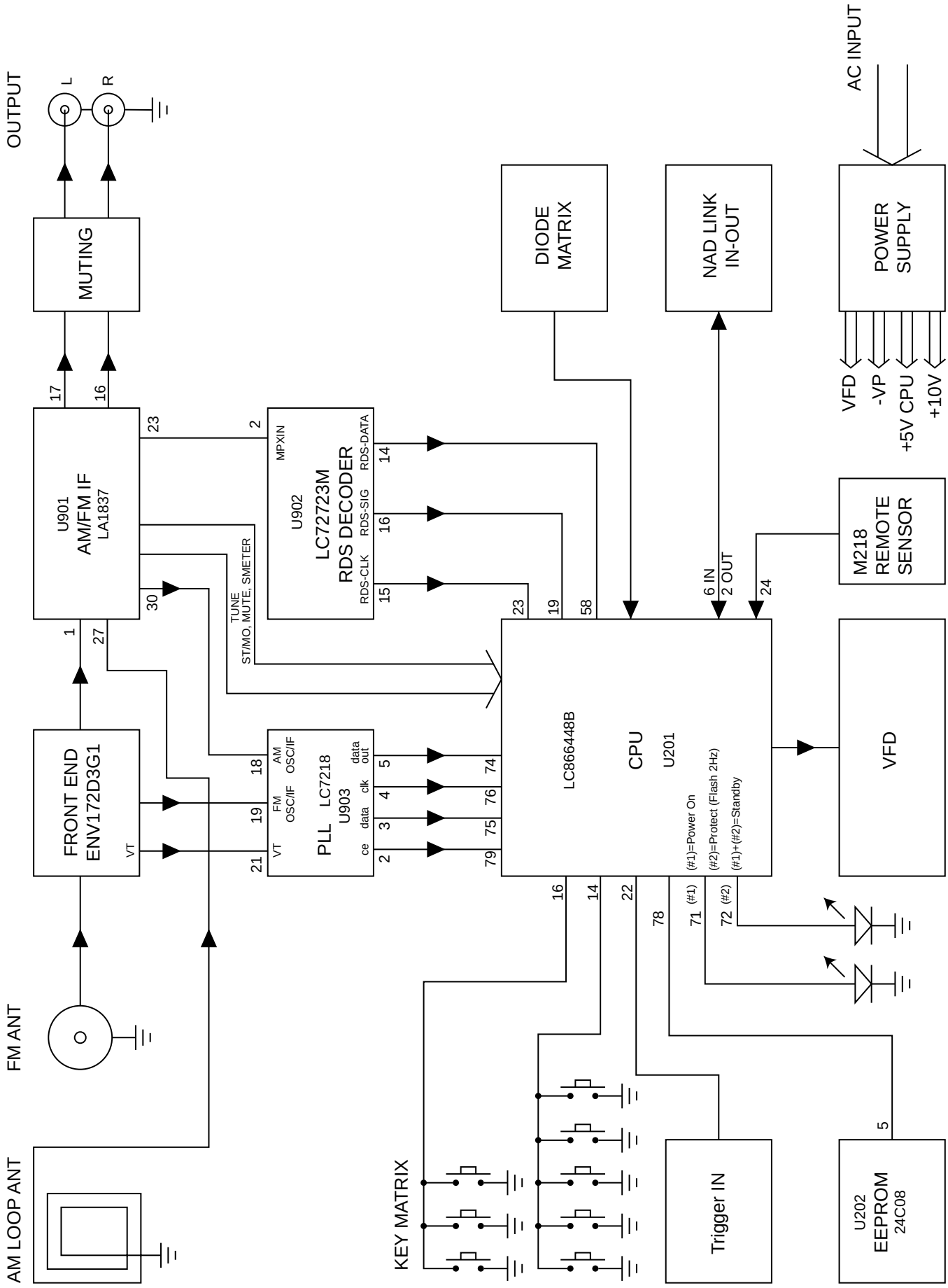


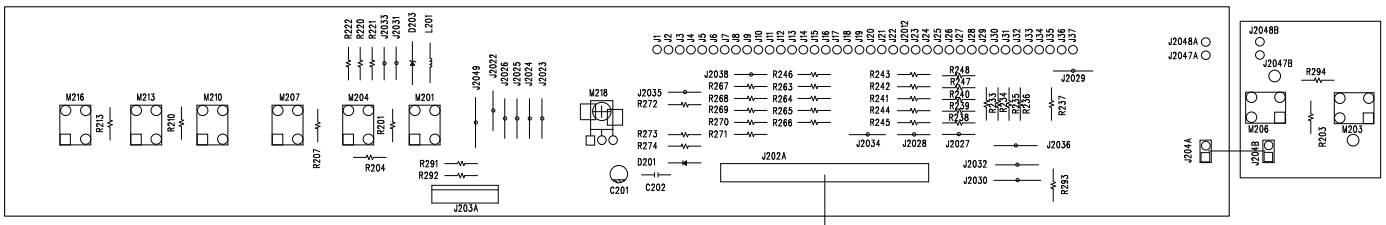
Figure No.2.

BLOCK DIAGRAM



WIRING DIAGRAM

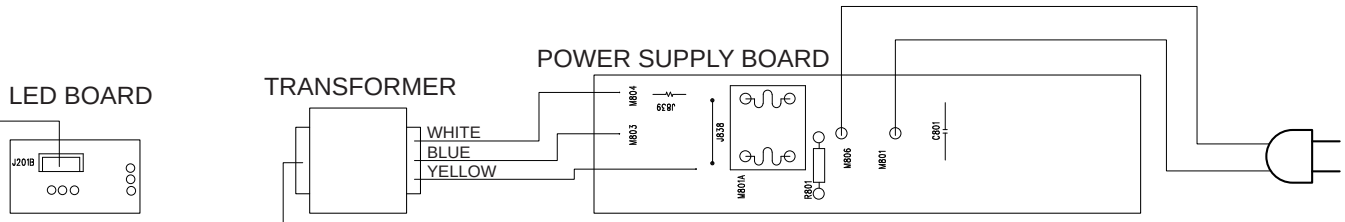
KEY BOARD



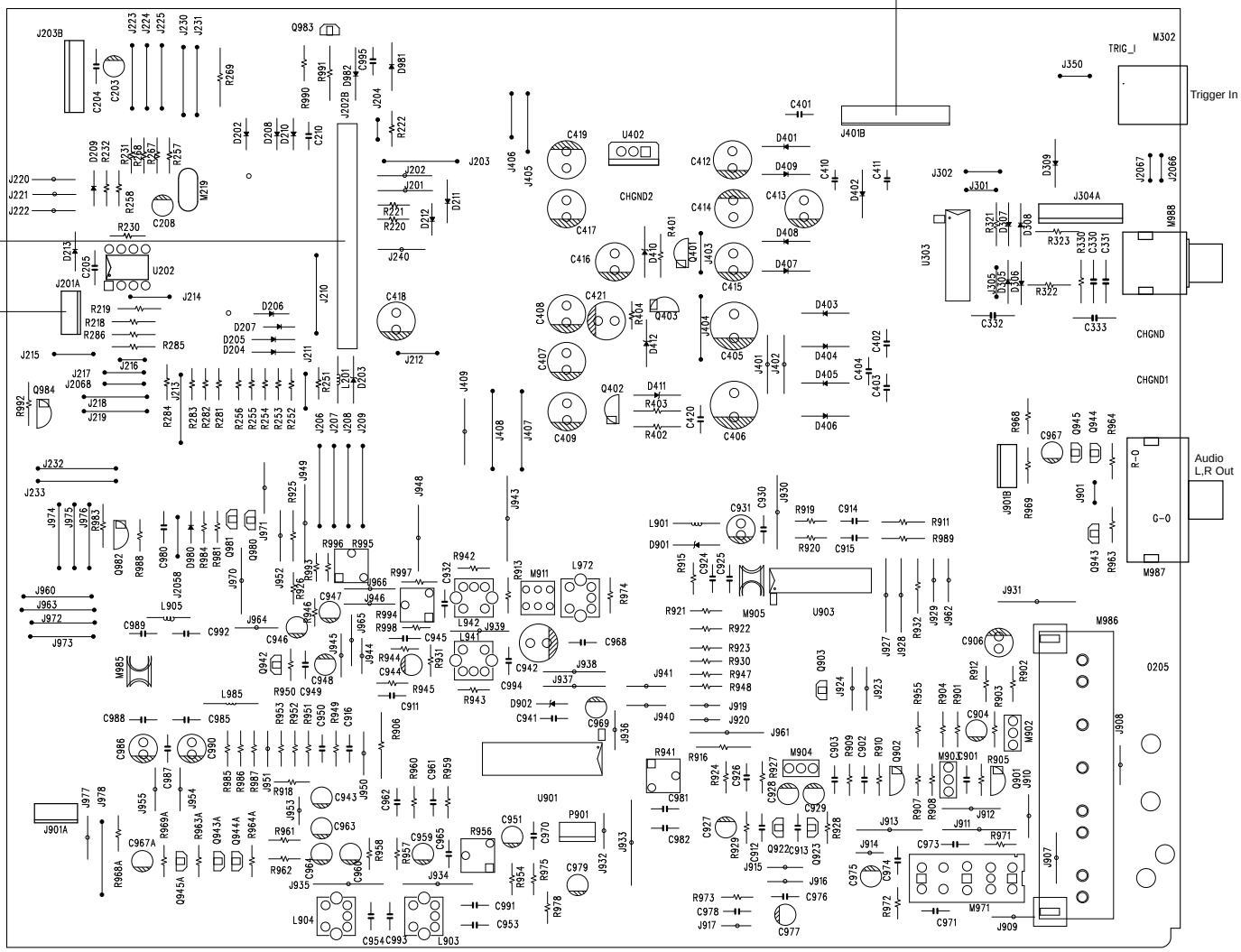
POWER SUPPLY BOARD

LED BOARD

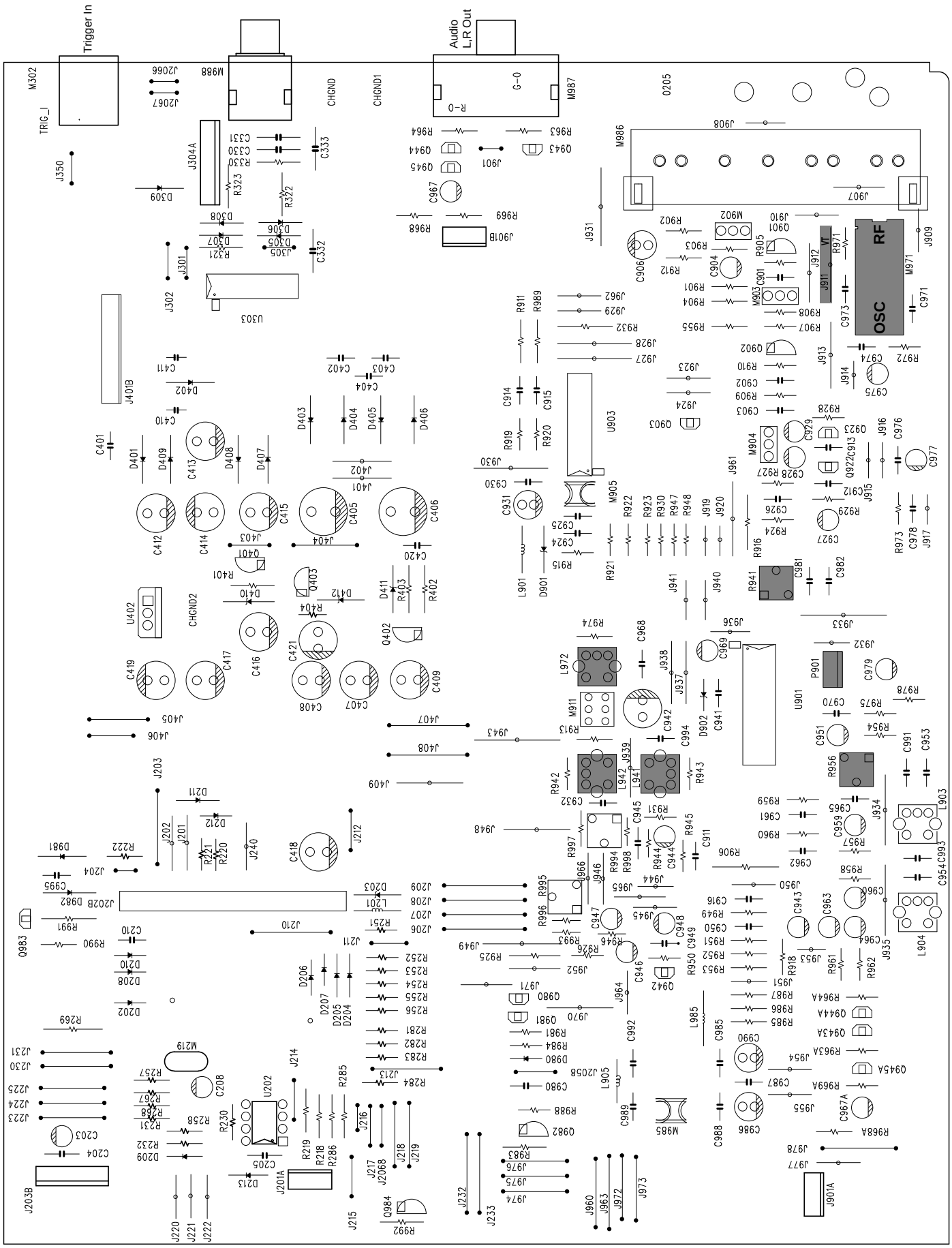
TRANSFORMER



MAIN BOARD



ADJUSTMENT POINTS DIAGRAM



INSTRUMENT SETUP

1. FM MEASUREMENT

Fig. 1

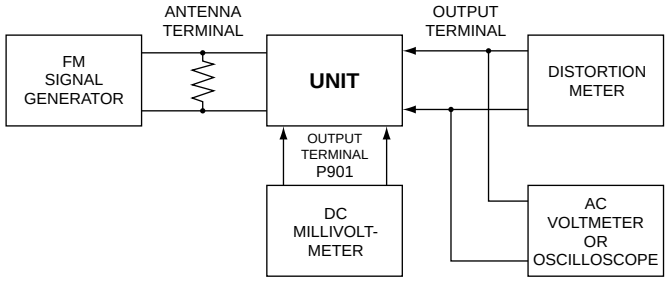
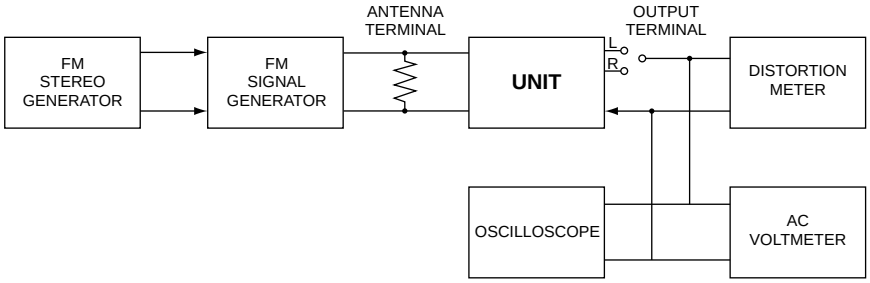
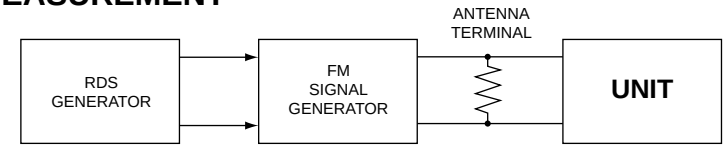


Fig. 2



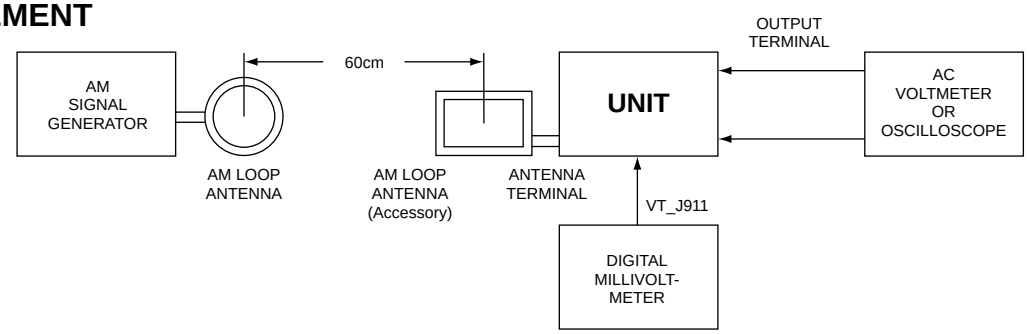
2. RDS MEASUREMENT

Fig. 3



3. AM MEASUREMENT

Fig. 4



ALIGNMENT PROCEDURES

FM/RDS SECTION

- FM mono: 1kHz, 75kHz devi., 60dB/µV
- FM stereo: 1kHz, 67.5kHz devi., 60dB/µV
  Pilot signal 19kHz 7.5kHz devi.

OUTPUTS
- Connect the 47Kohm resistor unless otherwise noted.

Item	Step	Connection of instrument	FM SG output	Stereo modulator output	Tuning frequency	Output indicator	Adjustment point	Adjust for	Remarks
FM IF/RF	1	Fig.1	99.0MHz 1kHz 75kHz devi. 65dBf (60dB)	–	99.0MHz	DC voltmeter	L941	0±70mV	FM MUTE/MODE switch: ON/AUTO Repeat the steps 1 to 3 until no further adjustment is necessary.
	2					AC voltmeter	IFT on the front end	Maximum	
	3					Distortion analyzer	L942	Minimum	
Stereo Distortion		Fig.2	99.0MHz Ext. mod. 65dBf (60dB)	Channel L or R 1kHz	99.0MHz	Distortion analyzer	IFT on the front end	Minimum	FM MUTE/MODE switch: ON/AUTO Don't turn more than ±180˚
Stereo Separation		Fig.2	99.0MHz Ext. mod. 65dBf (60dB)	Channel L or R 1kHz	99.0MHz	Oscilloscope	R941	Maximum separation	Repeat stereo distortion and stereo separation alignment until THD at minimum and separation at maximum.
						Distortion Meter		Minimum	
Mute Level		Fig.1	99.0MHz 18dB	–	99.0MHz	Oscilloscope	R956	Signal output	
RDS		Fig.3	99.0MHz Ext. mod. 65dBf (60dB) RDS 2% MOD	–	99.0MHz	–	–	–	Decode the RDS-Program station

AM SECTION

AF Modulation: 400Hz, 30%
For AH Version

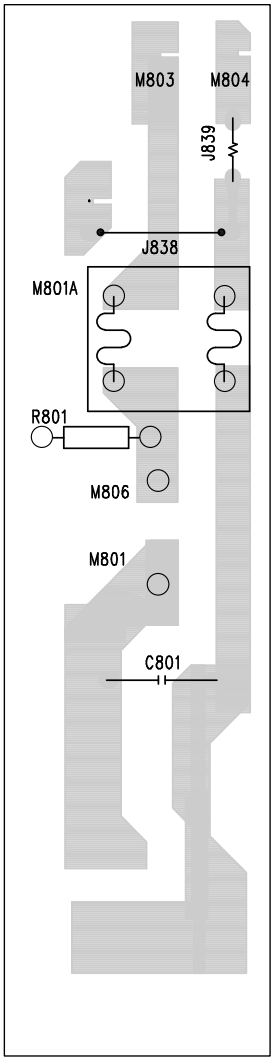
Step	AM SG output	Tuning frequency	Output indicator	Adjustment point	Adjust for
1	–	530kHz	Digital DC voltmeter	OSC coil on RF block M971	1.35±0.2V
2	600kHz 400Hz 30% mod. 60dB/m	600kHz	AC voltmeter	RF coil on RF block M971	Maximum
3	600kHz 400Hz 30% mod. 60dB/m	990kHz	AC voltmeter	L972	Maximum

For C Version

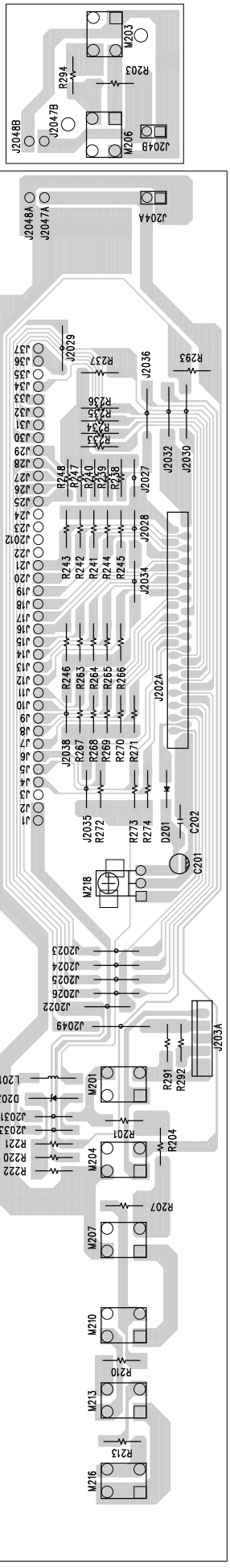
Step	AM SG output	Tuning frequency	Output indicator	Adjustment point	Adjust for
1	–	522kHz or 531kHz	Digital DC voltmeter	OSC coil on RF block M971	1.3±0.2V (522kHz) 1.35±0.2V (531kHz)
2	600kHz 400Hz 30% mod. 60dB/m	603kHz	AC voltmeter	RF coil on RF block M971	Maximum
3	600kHz 400Hz 30% mod. 60dB/m	999kHz	AC voltmeter	L972	Maximum

PCB LAYOUT

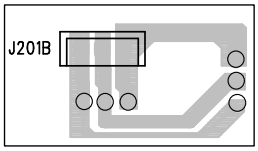
POWER SUPPLY BOARD



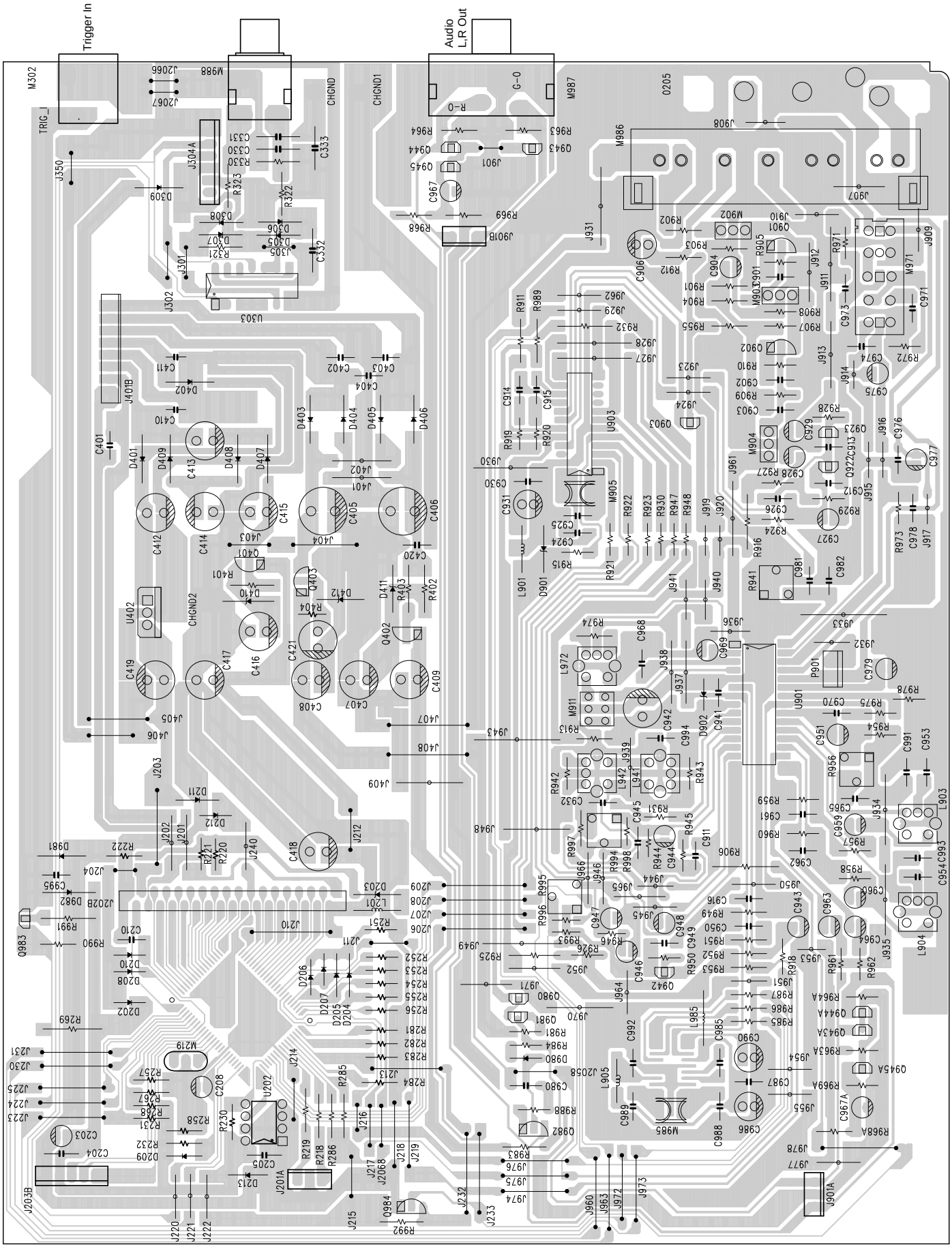
KEY BOARD



LED BOARD

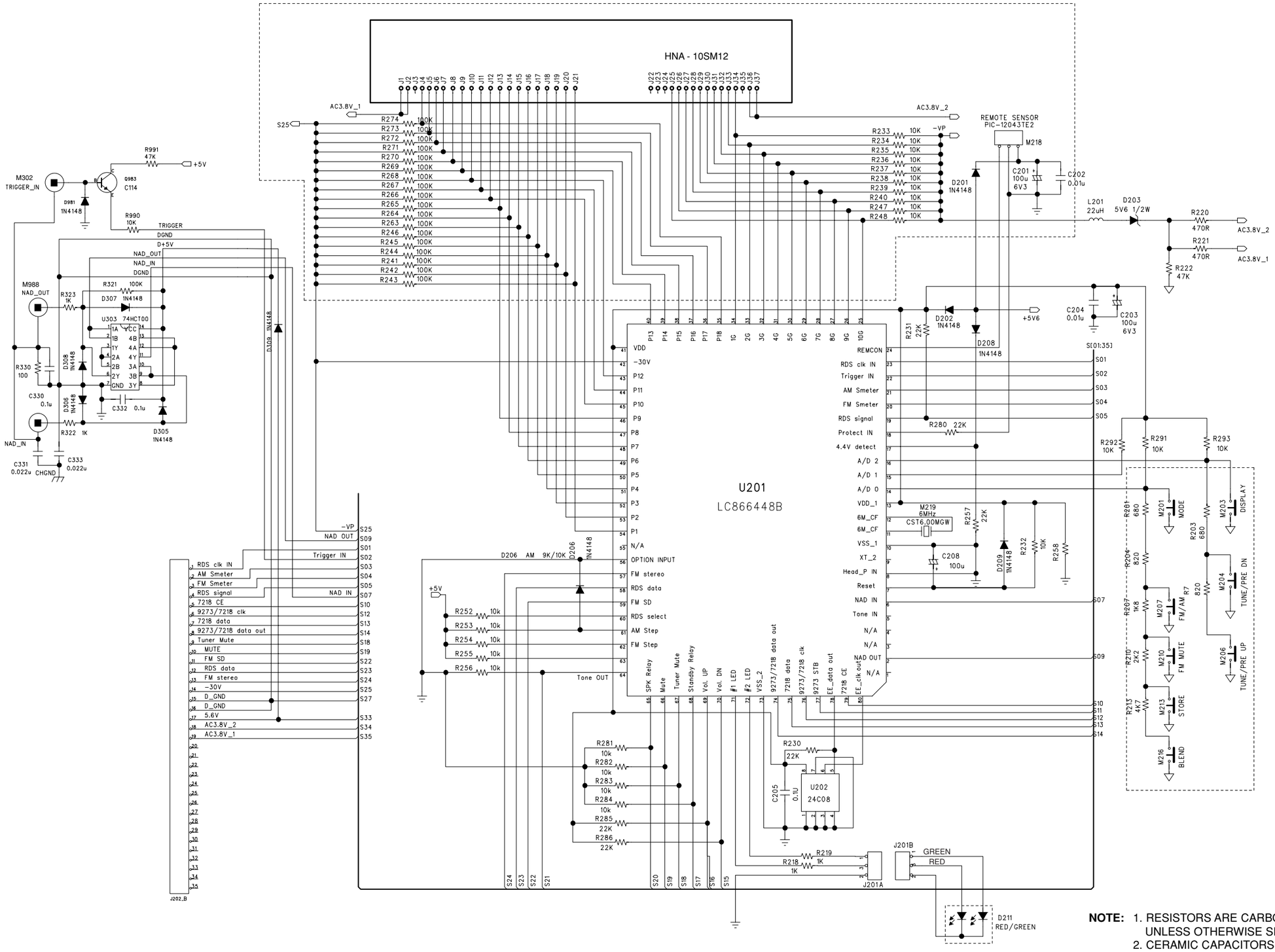


MAIN BOARD



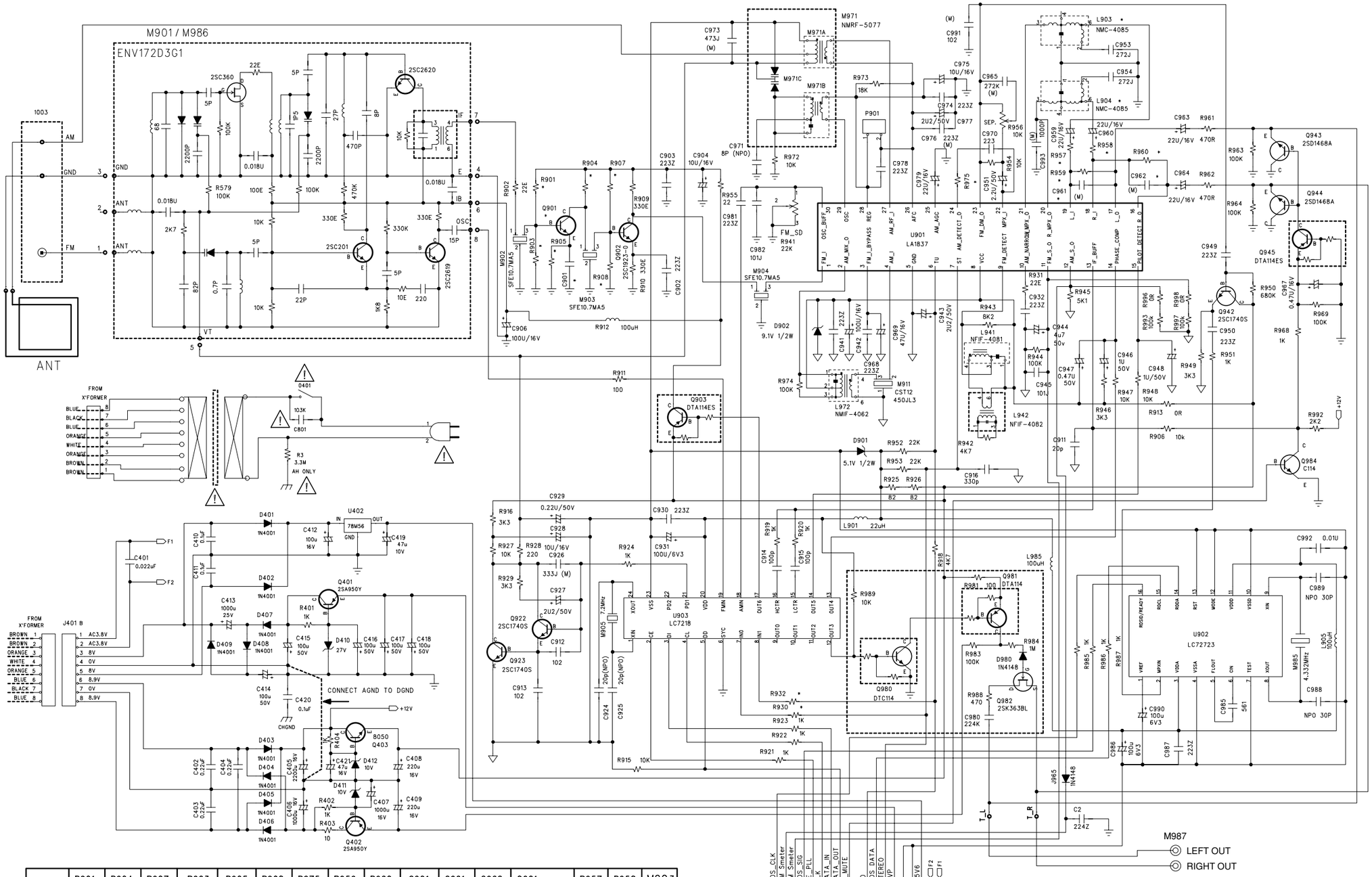
SCHEMATIC DIAGRAM

KEYBOARD / CPU



NOTE: 1. RESISTORS ARE CARBON FILM 5% 1/8W UNLESS OTHERWISE SPECIFIED.
2. CERAMIC CAPACITORS ARE 50V 10% UNLESS OTHERWISE SPECIFIED.

TUNER

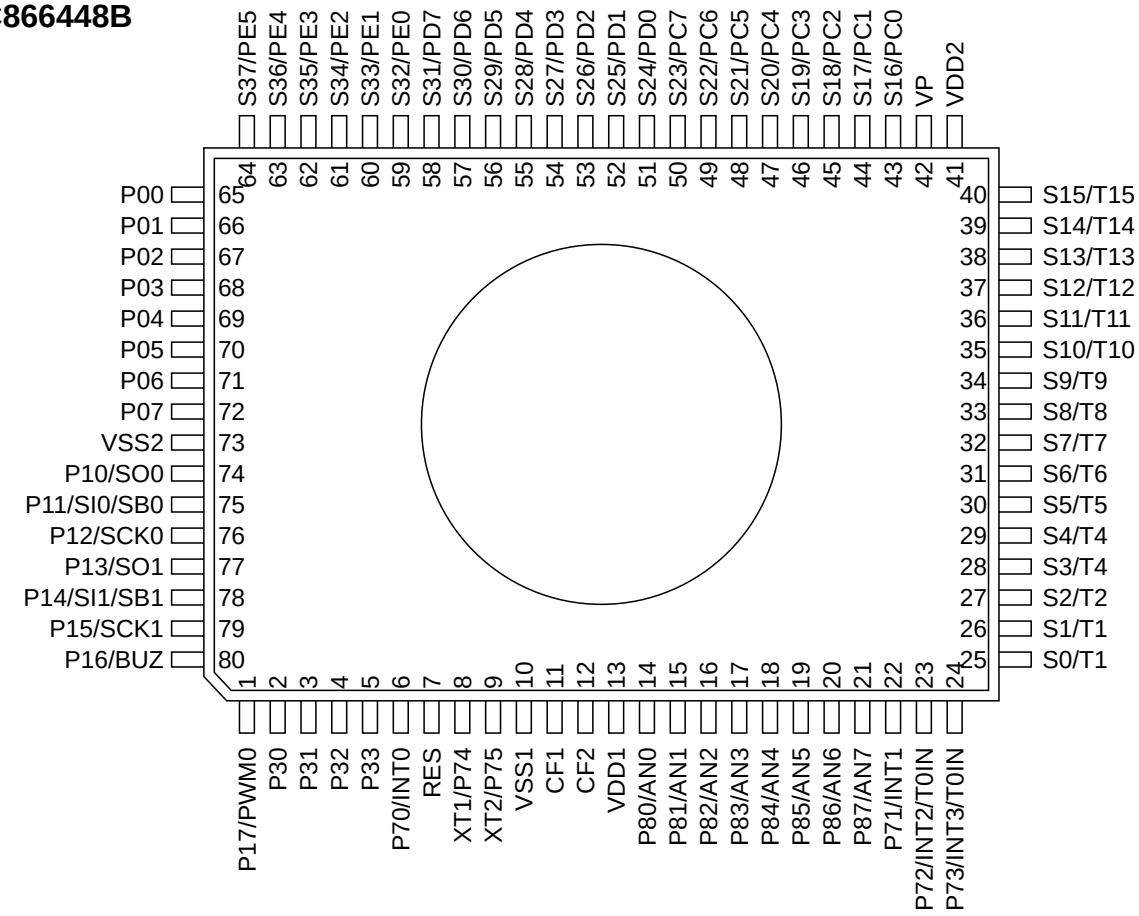


	R901	R904	R907	R903	R905	R908	R975	R959	R960	C901	C961	C962	Q901	R957	R958	M903
AH	3K3	–	–	1K	–	–	24K	62K	62K	–	272	272	–	4K3	4K3	—
C	33K	330	3K3	12K	680	470	56K	150K	150K	223	152	152	2SC945A-P	3K	3K	YES

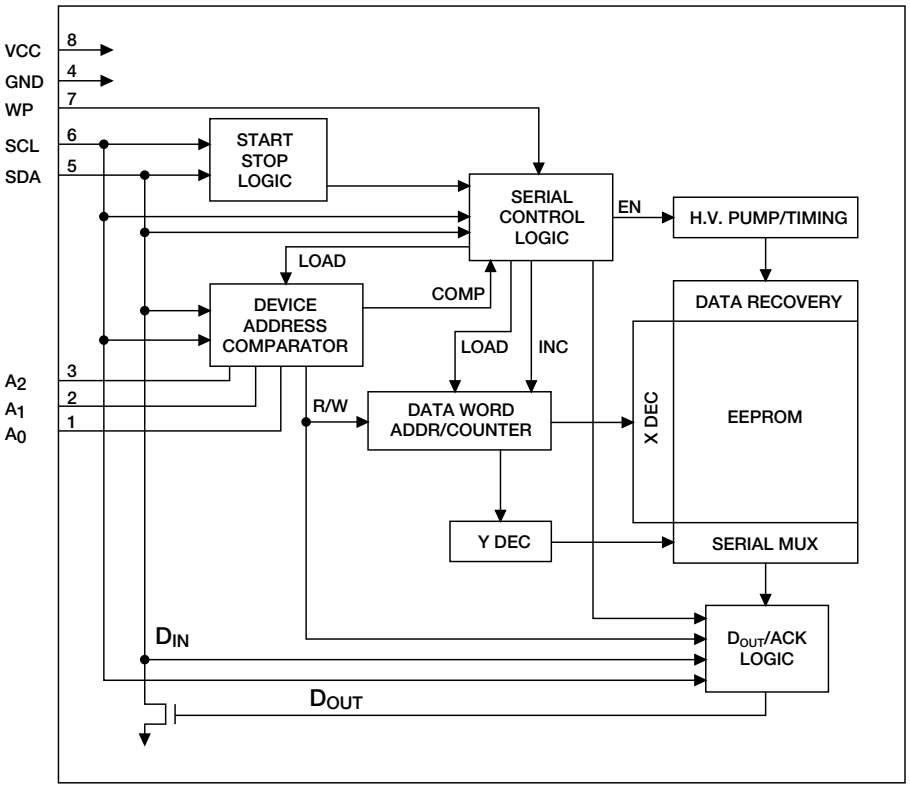
NOTE: 1. RESISTORS ARE CARBON FILM 5% 1/8W UNLESS OTHERWISE SPECIFIED.
2. CERAMIC CAPACITORS ARE 50V 10% UNLESS OTHERWISE SPECIFIED.

IC BLOCK DIAGRAM

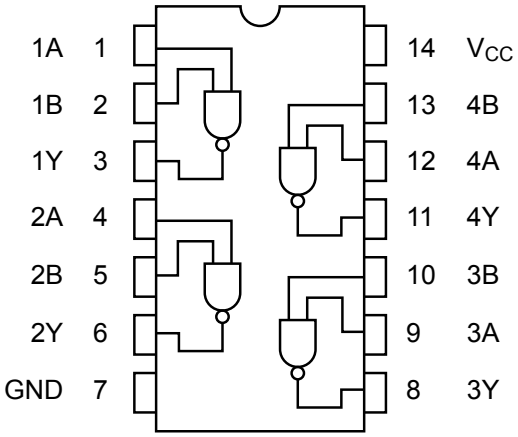
U201: LC866448B



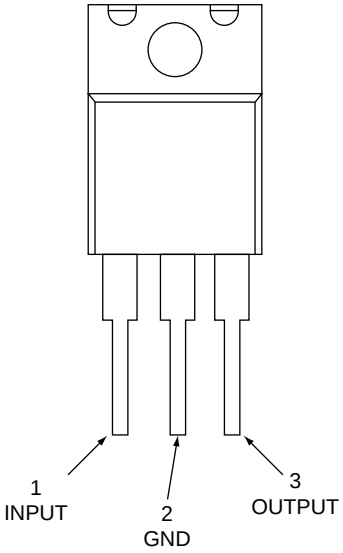
U202: 24C08



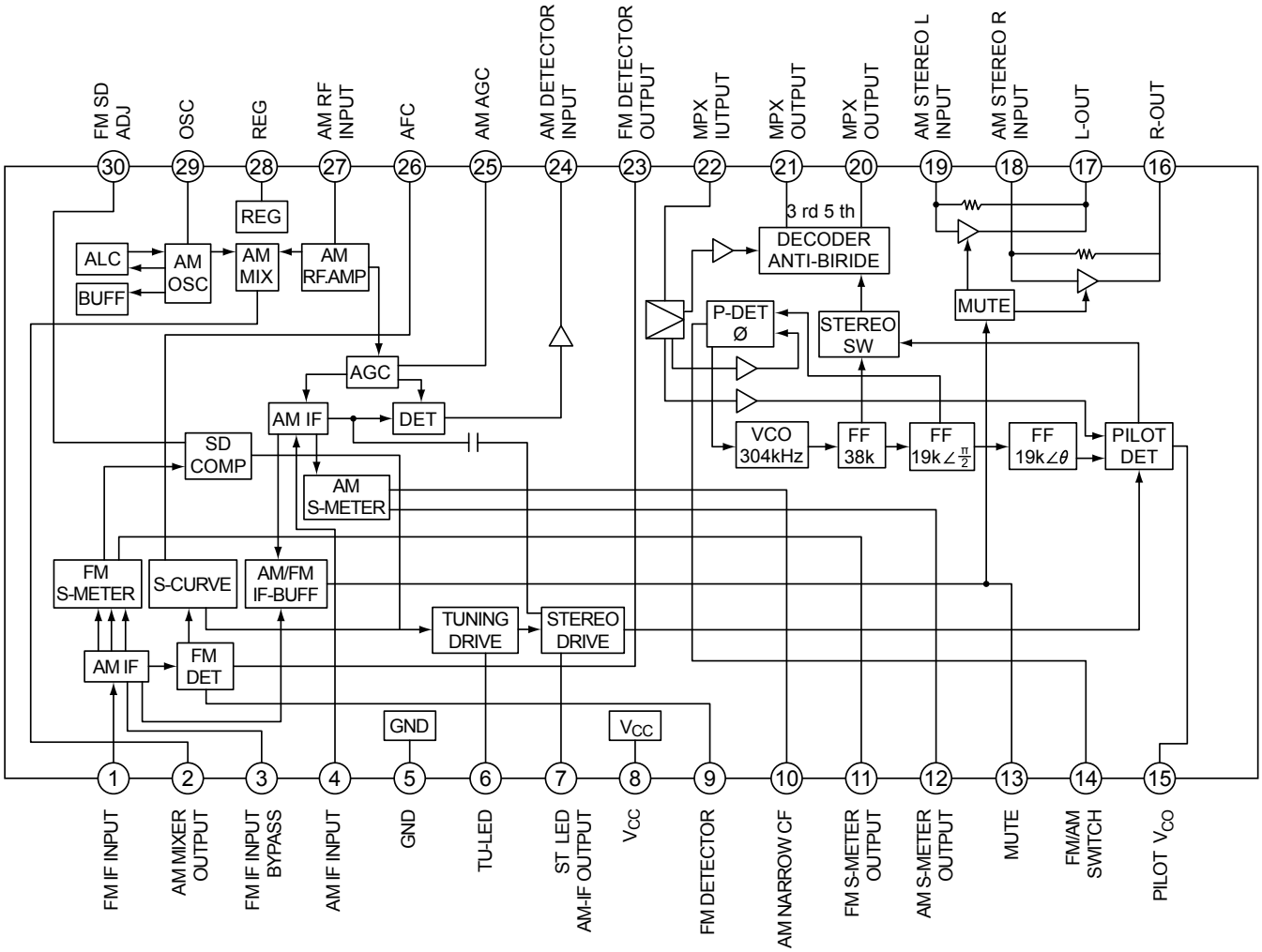
U303: 74HCT00



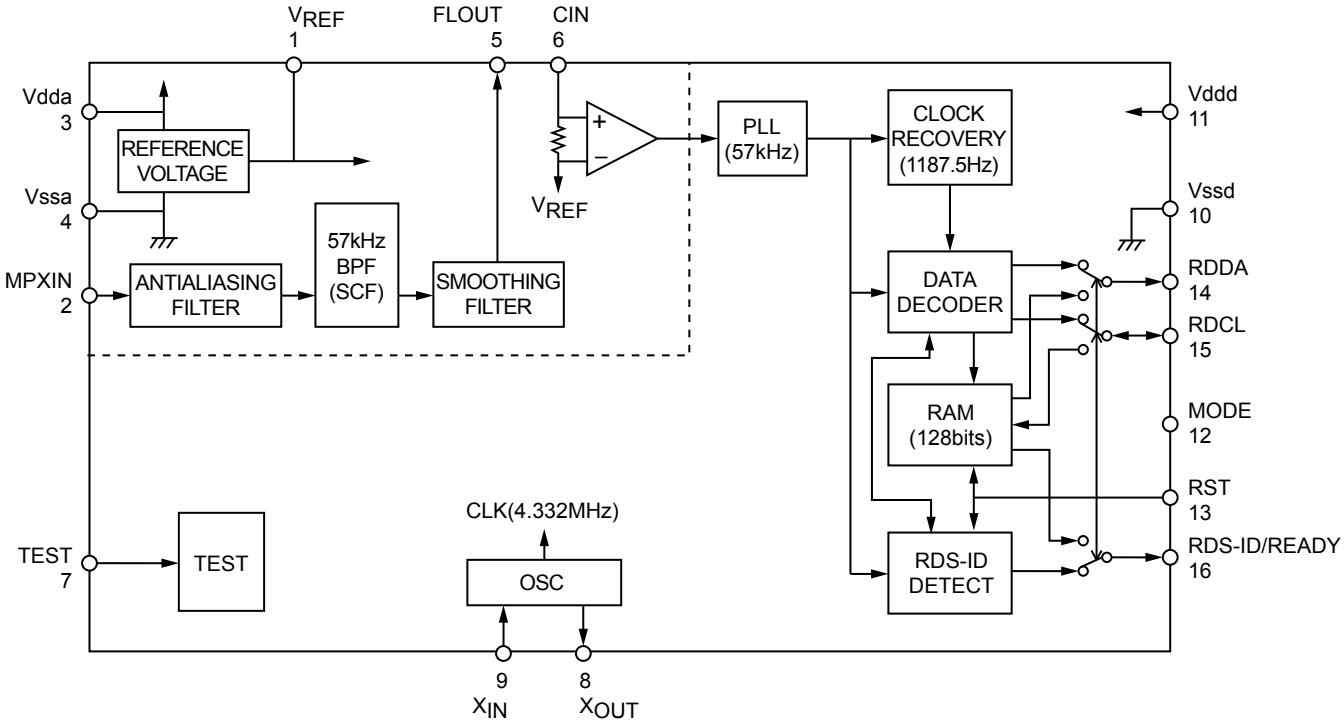
U402: NJM78M56FA



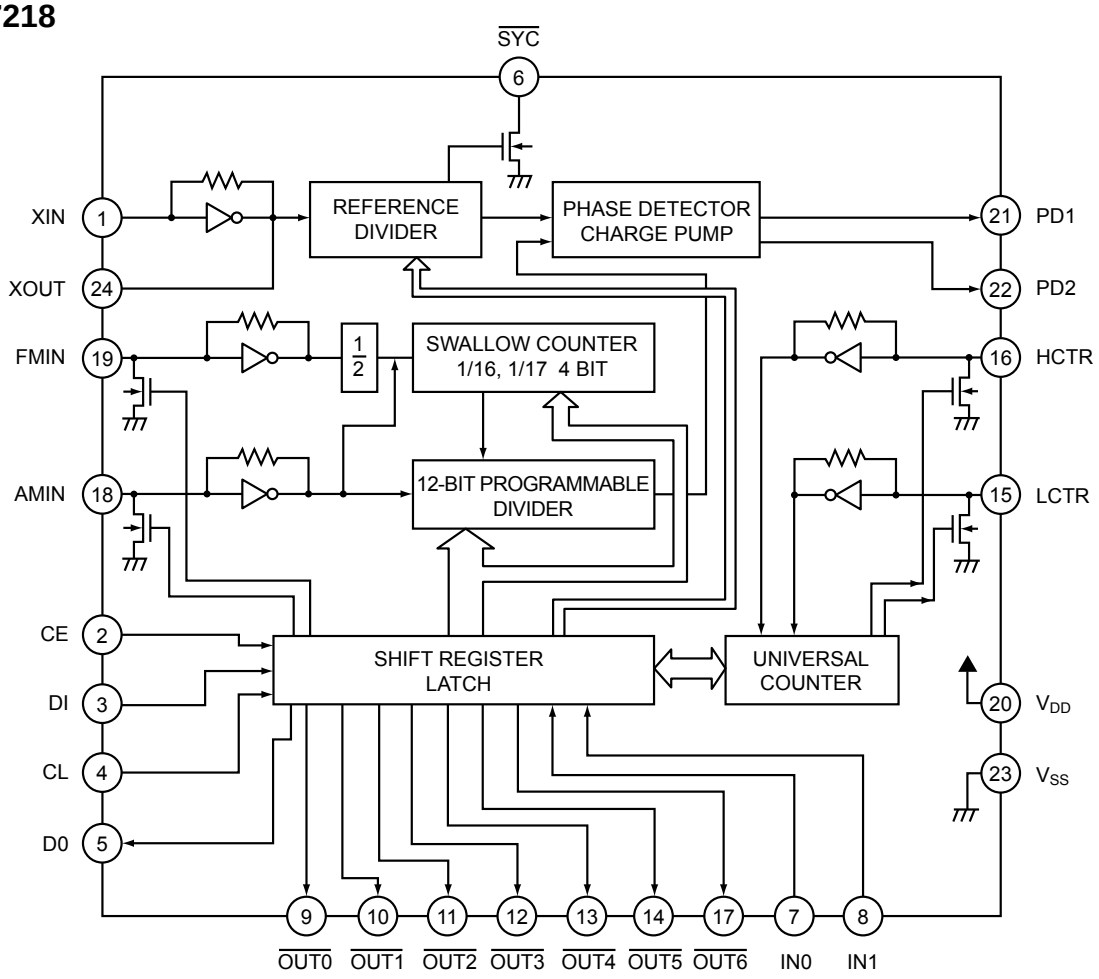
U901: LA1837



U902: LC72723M



U903: LC7218



ELECTRICAL PARTS LIST

Reference No.	Part No.	Description
KEYBOARD ASSEMBLY		
PC BOARD		
3000	PCB-N0930C-KEY	KEY PCB ASSY C420
VFD		
0303	2460-1960-0	VFD SAMSUNG HNA-105M12
CAPACITORS		
C201	157B-107M-5-KMK	CE 6.3V 100µF 20% RL 6x7 ELNA
C202	153F-103J-5-KM	CM 50V 0.01µF 5% RL 6.0x7.0
DIODES		
D201	4804-1480-C	DIODE 1N4148 ATS
D206 *C	4804-1480-C	DIODE 1N4148 ATS
CONNECTORS		
J202A	2101-1581-0	FLEXIBLE CONN. 35P P1.25 SIDE ENTRY
J203A	7705-1150-2004	5P CONN WIRE ASSY L=150 26AWG
J204A	7702-1075-2004	CONN.ASSY 2P P2.5 L=75 AWG26
J204B	2102-021R-004	WAFER 2P P2.5 RIGHT
SWITCHES		
M201, M203, M204, M206, M207, M210, M213, M216	5200-3538-0	SWITCH, TACT SKHHBY 7mm HIGH
INFRA-RED SENSOR		
M218	4814-3TE2-3	IR SENSOR PIC-12043TE2
RESISTORS		
R201	4701-681J-C	RCF 1/8W 680R 5% ATS
R203, R204	4701-122J-C	RCF 1/8W 1.2K 5% ATS
R207	4701-182J-C	RCF 1/8W 1.8K 5% ATS
R210	4701-222J-C	RCF 1/8W 2.2K 5% ATS
R213	4701-472J-C	RCF 1/8W 4.7K 5% ATS
R220, R221	4701-471J-C	RCF 1/8W 470R 5% ATS
R222	4701-473J-C	RCF 1/8W 47K 5% ATS
R233-R240	4701-103J-C	RCF 1/8W 10K 5% ATS
R241-R246	4701-104J-C	RCF 1/8W 100K 5% ATS
R247, R248	4701-103J-C	RCF 1/8W 10K 5% ATS
R263-R274	4701-104J-C	RCF 1/8W 100K 5% ATS
R291-R293	4701-103J-C	RCF 1/8W 10K 5% ATS
R294	4701-122J-C	RCF 1/8W 1.2K 5% ATS
LED ASSEMBLY		
PC BOARD		
5000	PCB-N0930C-LED	PCB ASSY LED N093xC
LED		
D211	3700-3517-RG	LED RED/GREEN (L-469HGW)
CONNECTOR WIRE		
J201B	7703-1320-2004	3P CONN WIRE ASSY L=320 26AWG

Reference No.	Part No.	Description
POWER SUPPLY ASSEMBLY		
PC BOARD		
4000 *AH	PCB-N0930C-PSU	POWER SUPPLY PCB ASSY C420AH
4000 *C	PCB-N0931C-PSU	POWER SUPPLY PCB ASSY C420C
SWITCH		
0401 ⚠	5200-3151-0-01	POWER SWITCH
CAPACITOR		
C801 ⚠	8910-0049-0	CAP400V 4700P DE7150F472MVA1KC
RESISTOR		
R801 *AH ⚠	4717-335J-2-S	RMF 1/2W 3.3M 5% AT UL APPROVED
MAIN BOARD ASSEMBLY		
PC BOARD		
2000 *AH	PCB-N0930C-TUN	PCB ASSY TUNER (AH) N0930C
2000 *C	PCB-N0931C-TUN	PCB ASSY TUNER (C) N0931C
JACKS		
M987	2113-1300-0	2P RCA JACK W/R AU W/SHIELD
M988	2113-1121-0	2P RCA JACK Y/Y AU HSP-242V-22
M302	2113-1179-0	PHONE JACK D3.5 BK JY-3537-01-140
CAPACITORS		
C203	157B-107M-5-KMK	CE 6.3V 100µF 20% RL 6x7 ELNA
C204	153F-103J-5-IM	CM 50V 0.01µF 5% RL 5x7
C205	150F-104Z-5-IU	CC 50V 0.1µF +80/-20% RL 5x11
C208	157D-476M-5-IUK	CE 16V 47µF 20% RL 5x11 ELNA
C210	153F-103J-5-IM	CM 50V 0.01µF 5% RL 5x7
C330	150F-104K-2-FC	CC 50V 0.1µF 10% AT 3.5x2
C331	150F-223K-2-FD	CC 50V 0.022µF 10% AT 3.2x2.2
C332	150F-104K-5-II	CC 50V 0.1µF 10% RL 5x5
C333	150F-223K-2-FD	CC 50V 0.022µF 10% AT 3.2x2.2
C401-C404	153F-224J-5-MIB	CM 50V 0.22µF 5% RL 7x5
C405	157D-228M-5-x9E	CE 16V 2200µF 20% RL 12.5x20 ELNA
C406, C407	157D-108M-5-S9K	CE 16V 1000µF 20% RL 10x20 ELNA
C408, C409	157D-227M-5-OMK	CE 16V 220µF 20% RL 8x7 ELNA
C410, C411	150F-104K-5-II	CC 50V 0.1µF 10% RL 5x5
C412	157D-107M-5-KUK	CE 16V 100µF 20% RL 6.3x11 ELNA
C413	157E-108M-5-S9E	CE 25V 1000µF 20% RL 10x20 ELNA
C414-C418	157F-107M-5-KUK	CE 50V 100µF 20% RL 6.3x11 ELNA
C419	157C-476M-5-IMK	CE 10V 47µF 20% RL 5x7 ELNA
C420	150F-104K-5-II	CC 50V 0.1µF 10% RL 5x5
C421	157E-107M-5-KUK	CE 25V 100µF 20% RL 6.3x11 ELNA
C901 *C	150F-223K-2-FD	CC 50V 0.022µF 10% AT 3.2x2.2
C902, C903	150F-223K-2-FD	CC 50V 0.022µF 10% AT 3.2x2.2
C904	157D-106M-5-GM	CE 16V 10µF 20% RL 4x7
C906	157D-107M-5-KUK	CE 16V 100µF 20% RL 6.3x11 ELNA
C911	150F-200J-2-FC	CC 50V 20pF 5% AT 3.5x2
C912, C913	150F-102K-2-FC	CC 50V 1000pF 10% AT 3.5x2
C914, C915	150F-101K-2-FC	CC 50V 100pF 10% AT 3.5x2
C916	150F-331K-2-FC	CC 50V 330pF 10% AT 3.5x2
C924	15CH-270J-5-GG	CTC 0/60 27pF 5% RL 4x4
C925	15CH-200J-5-GG	CTC 0/60 20pF 5% RL 4x4
C926	153F-333J-5-NLM	CM 50V 0.033µF 5% RL 7.5 x6.5 Metalzd
C927	157F-225M-5-GM	CE 50V 2.2µF 20% RL 4x7
C928	157D-106M-5-GM	CE 16V 10µF 20% RL 4x7
C929	157F-224M-5-GM	CE 50V 0.22µF 20% RL 4x7
C930	150F-223K-2-FD	CC 50V 0.022µF 10% AT 3.2x2.2

Reference No.	Part No.	Description
C931	157B-107M-5-KM	CE 6.3V 100µF 20% RL 6x7
C932, C941	150F-223K-2-FD	CC 50V 0.022µF 10% AT 3.2x2.2
C942	157D-107M-5-KUK	CE 16V 100µF 20% RL 6.3x11 ELNA
C943	157F-225M-5-GM	CE 50V 2.2µF 20% RL 4x7
C944	157F-475M-5-GM	CE 50V 4.7µF 20% RL 4x7
C945	150F-101K-2-FC	CC 50V 100pF 10% AT 3.5x2
C946	157F-105M-5-GM	CE 50V 1µF 20% RL 4x7
C947	157F-474M-5-GM	CE 50V 0.47µF 20% RL 4x7
C948	157F-105M-5-GM	CE 50V 1µF 20% RL 4x7
C949, C950	150F-223K-2-FD	CC 50V 0.022µF 10% AT 3.2x2.2
C951	157F-225M-5-GM	CE 50V 2.2µF 20% RL 4x7
C953, C954	150D-272K-2-FC	CC 16V 2700pF 10% AT 3.5x2
C959, C960	157D-226M-5-GM	CE 16V 22µF 20% RL 4x7
C961, C962 *AH	153F-272J-5-JM	CM 50V 2700PF 5% RL 5.5x7
C961, C962 *C	153F-152J-5-KW	CM 50V 1500pF 5% RL 6x12
C963, C964	157D-226M-5-GM	CE 16V 22µF 20% RL 4x7
C965	150D-272K-2-FC	CC 16V 2700pF 10% AT 3.5x2
C967	157D-474M-5-II	CE 16V 0.47µF 20% RL 5x5
C968	150F-223K-2-FD	CC 50V 0.022µF 10% AT 3.2x2.2
C969	157D-476M-5-IM	CE 16V 47µF 20% RL 5x7
C970	150F-223K-2-FD	CC 50V 0.022µF 10% AT 3.2x2.2
C971	15CH-080D-5-GG	CTC 0/60 8pF 0.5pF RL 4x4
C973	153F-473J-5-NLM	CM 50V 0.047µF 5% RL 7.5 x6.5 Metalzd
C974	150F-223K-2-FD	CC 50V 0.022µF 10% AT 3.2x2.2
C975	157D-106M-5-GM	CE 16V 10µF 20% RL 4x7
C976	150F-223K-2-FD	CC 50V 0.022µF 10% AT 3.2x2.2
C977	157F-225M-5-GM	CE 50V 2.2µF 20% RL 4x7
C978	150F-223K-2-FD	CC 50V 0.022µF 10% AT 3.2x2.2
C979	157D-226M-5-GM	CE 16V 22µF 20% RL 4x7
C980	153F-224J-5-MIB	CM 50V 0.22µF 5% RL 7x5
C981	150F-223K-2-FD	CC 50V 0.022µF 10% AT 3.2x2.2
C982	150F-101K-2-FC	CC 50V 100pF 10% AT 3.5x2
C985	150F-561K-2-FC	CC 50V 560pF 10% AT 3.5x2
C986	157B-107M-5-KM	CE 6.3V 100µF 20% RL 6x7
C987	150F-223K-2-FD	CC 50V 0.022µF 10% AT 3.2x2.2
C988, C898	15CH-300J-5-IG	CTC 0/60 30pF 5% RL 5x4
C990	157B-107M-5-KM	CE 6.3V 100µF 20% RL 6x7
C991	150F-102K-2-FC	CC 50V 1000pF 10% AT 3.5x2
C992	150F-103K-2-FC	CC 50V 0.01µF 10% AT 3.5x2
R995	150F-224M-N-II	CC 50V 0.22µF 20% RLF MONO
DIODES		
D202	4804-1480-C	DIODE 1N4148 ATS
D203	4837-5V61-2	DZ 1/2W 5.6V ROHM AT
D208-D211	4804-1480-C	DIODE 1N4148 ATS
D213, D305-D309		
D206 *AH	4804-1480-C	DIODE 1N4148 ATS
D401-D409	4804-0010-2	DIODE 1N4001 AT
D410	4837-27V0-2	DZ 1/2W 27V(26.2-27.6)AT
D411 *AH	4837-1001-2	DZ 1/2W 10V ROHM AT
D411 *C	4837-10D1-2	DZ 1/2W 9.94-10.44V ROHM
D412	4837-10D1-2	DZ 1/2W 9.94~10.44V ROHM AT (MTZJ10D)
D901	4837-4C20-2	DZ 1/2W 5.0-5.2V AT
D902	4837-7C20-2	DZ 1/2W 9.1-9.5V AT
D980, D981	4804-1480-C	DIODE 1N4148 ATS
J213	4837-3A31-2	DZ 1/2W 3.16~3.38V ROHM AT (MTZJ3.3A)
J965	4804-1480-C	DIODE 1N4148 ATS
WAFERS		
J201A	2102-031S-004	3 PIN ST. WAFER P=2.5 COULOMB

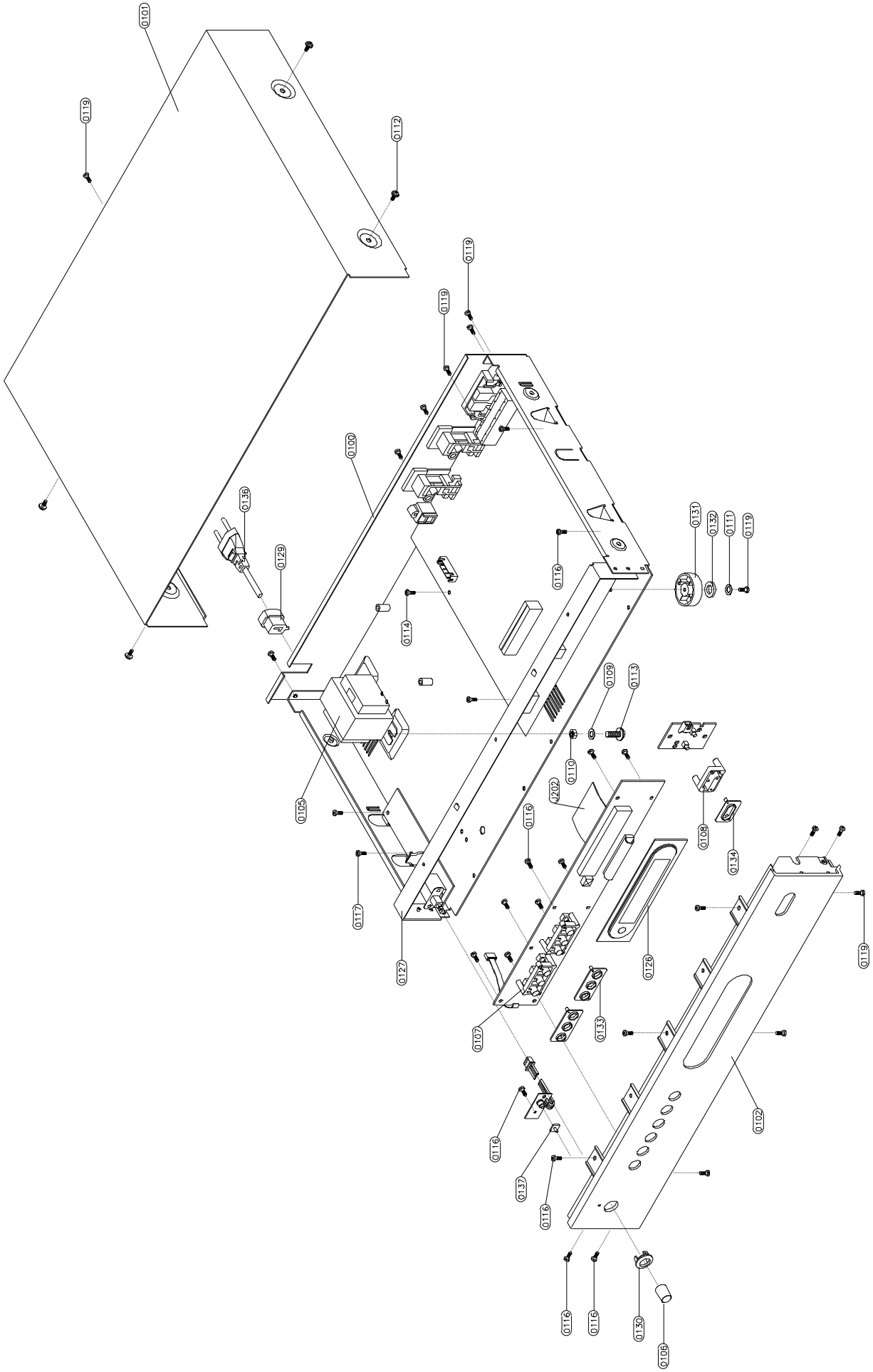
Reference No.	Part No.	Description
J202B	2101-1591-0	FLEXIBLE CONN. 35P P1.25 TOP ENTRY
J203B	2102-051S-004	5P ST.WAFER P=2.5 COULOMB
J401B	2102-081S-004	WAFER 8P P2.5 ST.
P901	2113-1160-0	WAFER 2P ST. P=2.5 NH (JST)
COILS		
L201, L901	1801-220K-M	COIL 22µH 10% AL BL7
L903, L904	5600-3386-S	COIL MPx LPF NMC-4085
L905	1801-101K-M	COIL 100µH 10%
L941	5600-3396-S	COIL FM DET-1 10.7MHZ NFIF-4081
L942	5600-3406-S	COIL FM DET-2 10.7MHZ NFIF-4082
L971	5600-3280-G	COIL MW RF BLOCK NMRF-5077
L972	5600-3416-S	COIL AM IFT NMIF-4062
L985	1801-101K-M	COIL 100µH 10%
R912	1801-101K-M	COIL 100µH 10%
TUNER		
M901 / M986	1300-0726-0	TUNER ENV172D3G1 PANASONIC
CERAMIC FILTERS		
M902, M904	2701-0010-1	CF10.7 +-30 SFE10.7MA5-A
M903 *C	2701-0010-1	CF10.7 +-30 SFE10.7MA5-A
M911	2701-0680-0	CF 450 +-1 SFZ450JL3 MURATA
CRYSTALS		
M219	2703-0200-0	CR 6MHZ CST6.00MGW MURATA
M905	2300-0440-0	CRYSTAL 7.2MHZ 20PPM
M985	2300-1220-0	CRYSTAL 4.332MHZ
TRANSISTORS		
Q401, Q402	485A-950Y-5	TR 2SA950-Y HFE 100-200
Q403	4860-0050-5	TR SS8050 C/D SAMSUNG RL
Q901 *C	485C-945P-5	TR 2SC945P HFE 200-400
Q902	4851-9230-5	TR 2SC1923-0 HFE 70-140
Q903	485A-114E-5	TR DTA114ESA ROHM
Q922, Q923, Q942	4860-1590-5	TR 2SC1740S (R) HFE180-390
Q943, Q944	4860-8120-0	TR 2SD 1468 S
Q945	485A-114E-5	TR DTA114ESA ROHM
Q980	485C-114E-5	TR DTC114ES
Q981	485A-114E-5	TR DTA114ESA ROHM
Q982	4853-63BL-5	TR N-JFET 2SK-363BL
Q983, Q984	485C-114E-5	TR DTC114ES
RESISTORS		
R218, R219	4701-102J-C	RCF 1/8W 1K 5% ATS
R230, R231	4701-223J-C	RCF 1/8W 22K 5% ATS
R232, R252-R256	4701-103J-C	RCF 1/8W 10K 5% ATS
R257, R267	4701-223J-C	RCF 1/8W 22K 5% ATS
R281-R284	4701-103J-C	RCF 1/8W 10K 5% ATS
R285, R286	4701-223J-C	RCF 1/8W 22K 5% ATS
R321	4701-104J-C	RCF 1/8W 100K 5% ATS
R322, R323	4701-102J-C	RCF 1/8W 1K 5% ATS
R330	4701-101J-C	RCF 1/8W 100R 5% ATS
R401, R402	4701-102J-C	RCF 1/8W 1K 5% ATS
R403	4701-100J-C	RCF 1/8W 10R 5% ATS
R404	4701-102J-C	RCF 1/8W 1K 5% ATS
R901 *A	4701-332J-C	RCF 1/8W 3.3K 5% ATS
R901 *C	4701-333J-C	RCF 1/8W 33K 5% ATS
R902	4701-220J-C	RCF 1/8W 22R 5% ATS
R903 *AH	4701-102J-C	RCF 1/8W 1K 5% ATS

Reference No.	Part No.	Description
R903 *C	4701-123J-C	RCF 1/8W 12K 5% ATS
R904 *C	4701-331J-C	RCF 1/8W 330R 5% ATS
R905 *C	4701-681J-C	RCF 1/8W 680R 5% ATS
R906	4701-103J-C	RCF 1/8W 10K 5% ATS
R907 *C	4701-332J-C	RCF 1/8W 3.3K 5% ATS
R908 *C	4701-471J-C	RCF 1/8W 470R 5% ATS
R909, R910	4701-331J-C	RCF 1/8W 330R 5% ATS
R911	4701-101J-C	RCF 1/8W 100R 5% ATS
R915	4701-103J-C	RCF 1/8W 10K 5% ATS
R916	4701-102J-C	RCF 1/8W 1K 5% ATS
R918	4701-472J-C	RCF 1/8W 4.7K 5% ATS
R919, R920	4701-102J-C	RCF 1/8W 1K 5% ATS
R921, R922	4701-222J-C	RCF 1/8W 2.2K 5% ATS
R923, R924	4701-102J-C	RCF 1/8W 1K 5% ATS
R925, R926	4701-820J-C	RCF 1/8W 82R 5% ATS
R927	4701-103J-C	RCF 1/8W 10K 5% ATS
R928	4701-221J-C	RCF 1/8W 220R 5% ATS
R929	4701-222J-C	RCF 1/8W 2.2K 5% ATS
R931	4701-220J-C	RCF 1/8W 22R 5% ATS
R941	4756-2236-3-06	SVR 22K H3 7x7.6 RH0615C
R942	4701-472J-C	RCF 1/8W 4.7K 5% ATS
R943	4701-822J-C	RCF 1/8W 8.2K 5% ATS
R944	4701-104J-C	RCF 1/8W 100K 5% ATS
R945	4701-512J-C	RCF 1/8W 5.1K 5% ATS
R946	4701-332J-C	RCF 1/8W 3.3K 5% ATS
R947, R948	4701-103J-C	RCF 1/8W 10K 5% ATS
R949	4701-332J-C	RCF 1/8W 3.3K 5% ATS
R950	4701-684J-C	RCF 1/8W 680K 5% ATS
R951	4701-102J-C	RCF 1/8W 1K 5% ATS
R952, R953	4701-223J-C	RCF 1/8W 22K 5% ATS
R954	4701-103J-C	RCF 1/8W 10K 5% ATS
R955	4701-220J-C	RCF 1/8W 22R 5% ATS
R956	4756-1036-3-06	SVR 10K H3 7x7.6 RH0615C
R957, R958 *AH	4701-432J-2	RCF 1/8W 4.3K 5% AT
R957, R958 *C	4701-302J-C	RCF 1/8W 3K 5% ATS
R959, R960 *AH	4701-623J-2	RCF 1/8W 62K 5% AT
R959, R960 *C	4701-154J-C	RCF 1/8W 150K 5% ATS
R961, R962	4701-471J-C	RCF 1/8W 470R 5% ATS
R963, R964	4701-104J-C	RCF 1/8W 100K 5% ATS
R968	4701-102J-C	RCF 1/8W 1K 5% ATS
R969	4701-104J-C	RCF 1/8W 100K 5% ATS
R972	4701-103J-C	RCF 1/8W 10K 5% ATS
R973	4701-183J-C	RCF 1/8W 18K 5% ATS
R974	4701-104J-C	RCF 1/8W 100K 5% ATS
R975 *AH	4701-243J-C	RCF 1/8W 24K 5% ATS
R975 *C	4701-563J-C	RCF 1/8W 56K 5% ATS
R978	4701-105J-C	RCF 1/8W 1M 5% ATS
R981	4701-101J-C	RCF 1/8W 100R 5% ATS
R983	4701-104J-C	RCF 1/8W 100K 5% ATS
R984	4701-105J-C	RCF 1/8W 1M 5% ATS
R985-R987	4701-102J-C	RCF 1/8W 1K 5% ATS
R988	4701-471J-C	RCF 1/8W 470R 5% ATS
R989	4701-103J-C	RCF 1/8W 10K 5% ATS
R990	4701-473J-C	RCF 1/8W 47K 5% ATS
R991	4701-103J-C	RCF 1/8W 10K 5% ATS
R992	4701-472J-C	RCF 1/8W 4.7K 5% ATS
R993	4701-104J-C	RCF 1/8W 100K 5% ATS
R997	4701-104J-C	RCF 1/8W 100K 5% ATS

Reference No.	Part No.	Description
ICS		
U201	3131-9750-1	IC LC866448B 8 BIT SINGLE CHIP MCU MASKED
U202	3131-7250-0	IC 24C08 8K EEPROM
U303	3130-7370-0	IC 74HCT00 NAND GATE
U402	3130-8190-0	IC NJM78M56FA 5.6V REGULATOR
U901	3130-8180-0	IC LA1837 AM/FM IF
U902	3131-9040-0	IC LC72723M RDS DEMODULATOR MFP16
U903	3131-3760-0	IC LC7218 PLL FREQ SYNTHESIZER SANYO

NOTE:
- The components identified by ⚠ mark are critical for risk of fire and electrical shock. Replace only with part number specified.
- <*AH > : USA, Canadian model only.
- <*C > : European model only.
- Capacitors : CP-Polystyrene, CM-Mylar, CE-Electrolytic, CC-Ceramic, CTC-NPO.
- Resistors : RMF-Metal Film, RCF-Carbon Film.

EXPLODED VIEW

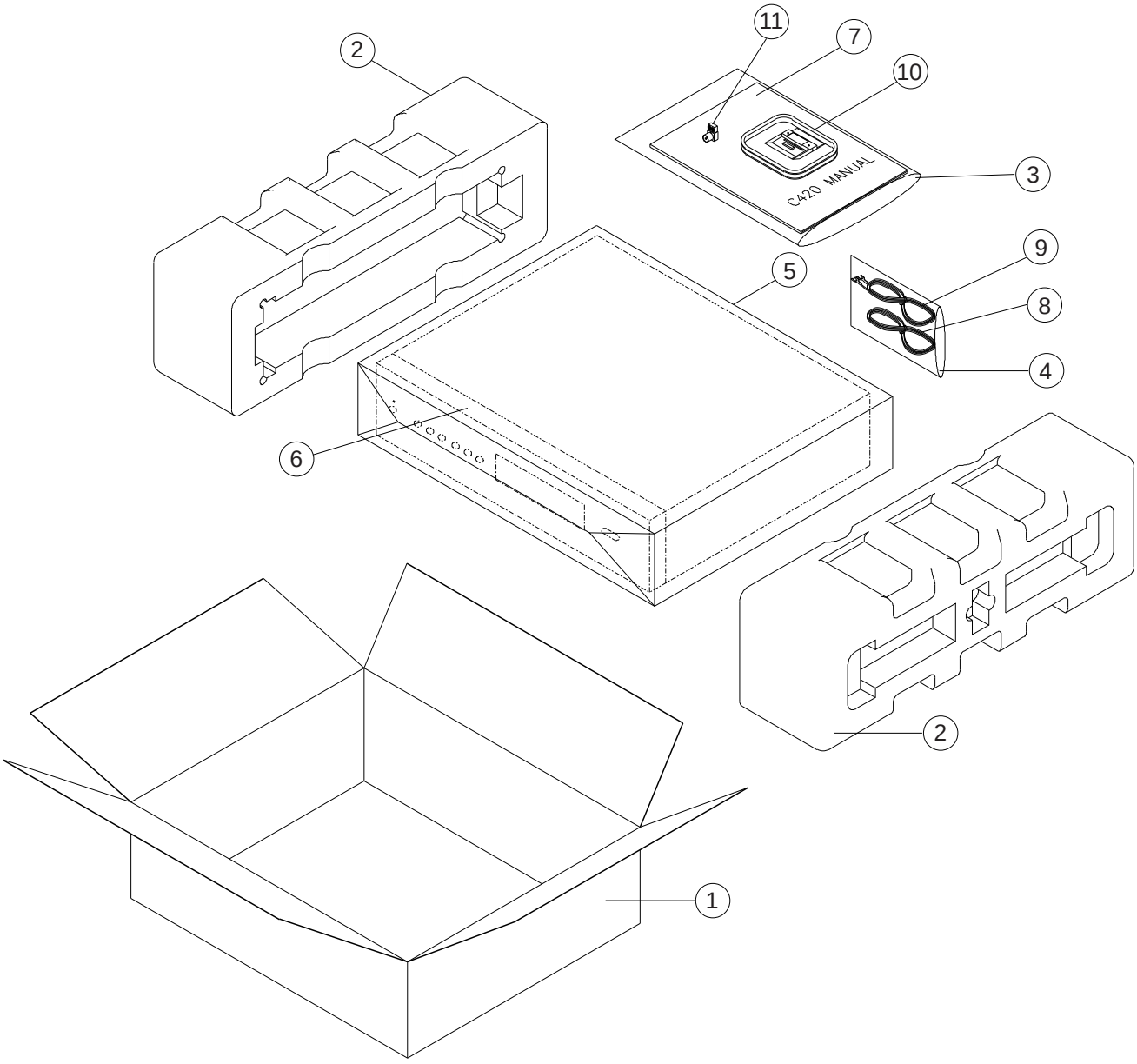


EXPLODED VIEW PARTS LIST

ITEM	Part No.	Description	Qty
0100 *AH	1402-3515-1	CHASSIS C420 AH W/SS-PAINT	1
0100 *C	1402-3514-1	CHASSIS C420 C W/SS-PAINT	
0101	1402-3530-0	COVER	1
0102	1403-7120-1	FASCIA	1
0105 ⚠	1806-3541-0	X'FORMER 120/230V I/P	1
0106	2442-1000-0	POWER BUTTON	1
0107	2444-1201-0	BUTTON TRIO	2
0108	2444-1301-1	BUTTON RACKER	1
0109	2600-4008-0973	FLAT WASHER M4X0.8X9.7 BZ	2
0110	2640-4030-0703	M4 NUT (BLK)	2
0111	2842-3367-0	METAL WASHER ID=3.3 OD=6.7	5
0112	2900-4006-3010	M4X0.5PX6MM W/FLAT WASHER	4
0113	2900-4010-3030	PH W/WASHER M4X10 BL ZN	2
0114	2904-3006-0000	SCREW M3X6	3
0116	2954-3008-0000	TAPPING 3X8MM B-TITE (YEL.ZN)	20
0117	2954-3006-0000	3X6MM B-TITE (YEL.ZN)	2
0119	2954-3008-3000	T3X8MM SELF TAPPING	14
0126	3716-4314-0	WINDOW LENS W/SS	1
0127	1402-3782-1	STRAP	1
0129 ⚠	4152-3851-0	SQ. STRAIN RELIEF BUSHING	1
0130	4152-4331-0	POWER BUTTON BEZEL	1
0131	4152-4631-0	RUBBER FOOT 14MM HIGH	4
0132	4152-4641-0	CUSHION FOOT	4
0133	4154-0031-0	BEZEL TRIO	2
0134	4154-0091-0	BEZEL RACKER	1
0136 *AH ⚠	7009-3100-2	AC CORD 18AWGX2 SPT-2 UL/CSA D.INSULATED	1
0136 *C ⚠	7009-3110-0	AC CORD (SEMKO)	1
0137	3714-5706-0	LED LENS CLEAR SAN	1
J202C	7012-5260-0	FLEXIBLE CABLE 35P L=150	1

NOTE:
- The components identified by ⚠ mark are critical for risk of fire and electrical shock. Replace only with part number specified.
- <*AH > : USA, Canadian model only.
- <*C > : European model only.

PACKING DIAGRAM



ITEM	PART NO.	DESCRIPTION	Q'TY
1	1408-0202-0	CARTON BOX	1
2	1490-1783-0	POLYFORM ENDCAP	2
3	1497-1062-0	POLYBAG MANUAL	1
4	1497-1302-0	POLYBAG ACCESSORY	1
5	1497-1332-1	POLYBAG UNIT	1
6	1497-1432-0	FASCIA COVER	1
7	4301-4868-1	INSTRUCTION MANUAL	1
8	2103-7302-1	RCA CABLE	1
9	2107-0661-1	300-OHM T ANTENNA	1
10	2113-1155-0	AM LOOP ANTENNA	1
11	2103-6101-0	RF CONNECTION PLUG	1

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SERVICE MANUAL

C 420

STEREO
AM/FM TUNER

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